AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1-26.　　(Cancelled).

27.　　(Currently Amended)　A generic user control point tool for discovering, controlling, and displaying Universal Plug and Play (UPnP) devices on a system, the generic user control point tool comprising:

a user interface that displays, in a first window panel,:

a plurality of user-selectable device search fields, wherein each of which the user-selectable device search fields corresponds to an alternate type of search for discovering UPnP devices on the system;

a device properties search field displaying to the user a plurality of user-selectable UPnP device properties, wherein the user-selectable UPnP device properties are determined and displayed by the user interface in response to user selection of one of the user-selectable device search fields, and wherein the user interface determines the UPnP device properties by utilizing at least one file containing device property information,, the at least one file corresponding to a selected device search field;are usable for selecting among alternatives defined by the user interface, the plurality of selectable fields including a plurality of selectable search type options that correspond to different types of searches for discovering UPnP devices on the system,

wherein in response to user-selection of any one of the selectable search types and one of the selectable UPnP device properties options, the generic user control point tool collects UPnP device information that is displayed as a list of selectable UPnP devices at the first window panel of the user interface.

28.　　(Previously Presented)　A generic user control point tool as recited in claim 27, wherein the plurality of selectable search type options include a find by type search option for searching by type of UPnP device, a find by unique device name (UDN) search option for finding UPnP devices by unique name and an asynchronous search option for finding all UPnP compliant devices on the system.

29.   (Previously Presented) A generic user control point tool as recited in claim 27, wherein the user interface further displays a start discovery button that must be selected prior to initiating discovery according to a selected search type option.

30.   (Previously Presented) A generic user control point tool as recited in claim 27, wherein the generic user control point tool collects UPnP device information in response to sending a multicast discovery message to UPnP devices that the UPnP devices respond to when any embedded devices or services of the UPnP devices match search criteria included in the multicast discovery message.

31.   (Previously Presented) A generic user control point tool as recited in claim 27, wherein the selectable list of UPnP devices is displayed in a pull-down list.

32.   (Previously Presented) A generic user control point tool as recited in claim 27, wherein the user interface also displays a selectable properties button corresponding to properties of the selectable UPnP devices, and wherein the generic user control point tool automatically obtains and displays properties corresponding to a selected UPnP device when the selected UPnP device is selected from the list and when the selectable properties button is selected.

33.   (Previously Presented) A generic user control point tool as recited in claim 32, wherein the generic user control point tool displays the properties in a separate window from the first window.

34.   (Previously Presented) A generic user control point tool as recited in claim 32, wherein the user interface also displays a list of services available to the selected UPnP device, when the selectable properties button is selected, and wherein the user interface displays a URL to a service description document in a field of the user interface when information is available for the services of the selected UPnP device in the service description document.

35.   (Previously Presented) A generic user control point tool as recited in claim 34, wherein the user interface also displays a selectable view service description button that, when selected, causes the generic user control point tool to open a service description viewer window for browsing the service description document, the service description viewer window being different than the first window used to display the user interface.

36.   (Previously Presented)   A generic user control point tool as recited in claim 35, wherein the service description viewer window displays a selectable button, that when selected causes the generic user control point tool to display the service description document.

37.   (Previously Presented)   A generic user control point tool as recited in claim 34, wherein the user interface displays a query button that, when selected, causes the user interface to determine and display a value associated with a selected variable corresponding to a service selected from the list of services.

38.   (Previously Presented) A generic user control point tool as recited in claim 37, wherein the user interface displays a selectable list of variables from which the selected variable is selected.

39.   (Previously Presented)   A generic user control point tool as recited in claim 34, wherein the user interface displays an invoke action button that, when selected, causes the user interface to invoke a selected action for a service selected from the list of services.

40.   (Previously Presented)   A generic user control point tool as recited in claim 39, wherein the user interface displays a selectable list of actions that can be invoked and from which the selected action is selected.

41.   (Previously Presented)   A generic user control point tool as recited in claim 40, wherein the user interface includes a field that displays arguments corresponding to the selected action.

42.   (Previously Presented) A generic user control point tool as recited in claim 27, wherein the user interface displays a presentation button that, when selected, causes the user interface to access and load a browser and then to access and load a UPnP device manufacture's presentation user interface with the browser according to a URL of a UPnP device selected from the list of selectable UPnP devices.

43.   (Currently Amended)   A method for discovering, controlling, and displaying Universal Plug and Play (UPnP) devices on a system using a generic user control point tool, the method comprising:

displaying a user interface with the generic user control point tool in a first window panel;

displaying at the user interface:

a plurality of user-selectable device search fields each of which corresponds to an alternate type of search ~~are usable for selecting among alternatives defined by the user interface, the plurality of user-selectable device search fields including a plurality of search type options that correspond to different types of searches~~ for discovering UPnP devices on the system;

a device properties search field displaying to the user a plurality of user-selectable UPnP device properties, wherein the user-selectable UPnP device properties are determined and displayed by the user interface in response to user selection of one of the user-selectable device search fields, and wherein the user interface determines the UPnP device properties by utilizing at least one file containing device property information, the at least one file corresponding to a selected device search field;

in response to ~~user~~ selection of ~~any~~ one of the selectable search types and one of the selectable UPnP device properties ~~options~~, collecting UPnP device information corresponding to compliant UPnP devices on the system; and

displaying the compliant UPnP devices in a selectable list at the first window panel of the user interface.

44.   (Previously Presented)   A method as recited in claim 43, wherein the plurality of selectable search type options include a find by type search option for searching by type of UPnP device, a find by unique device name (UDN) search option for finding UPnP devices by unique name and an asynchronous search option for finding all UPnP compliant devices on the system.

45.   (Previously Presented)   A method as recited in claim 43, wherein collecting UPnP device information includes sending a multicast discovery message to UPnP devices with search criteria.

46.   (Previously Presented)   A method as recited in claim 45, wherein compliant UPnP devices on the system respond to the multicast message when embedded devices or services of the compliant UPnP devices match the search criteria included in the multicast discovery message.

47.   (Previously Presented)   A method as recited in claim 43, further comprising:

displaying a selectable properties button, at the user interface, corresponding to properties of UPnP devices; and

automatically displaying properties corresponding to a selected UPnP device when the selected UPnP device is selected from the list and when the selectable properties button is selected.

48.   (Previously Presented)   A method as recited in claim 47, wherein the properties are displayed in a separate window from the first window.

49.   (Previously Presented)   A method as recited in claim 47, further comprising:

displaying a list of services available to the selected UPnP device, when the selectable properties button is selected, and

displaying a URL to a service description document when information is available for the services of the selected UPnP device in the service description document.

50.   (Previously Presented)   A method as recited in claim 49, further comprising:

displaying a selectable view service description button that, when selected, causes the generic user control point tool to open a service description viewer window for browsing the service description document, the service description viewer window being different than the first window used to display the user interface.

51.   (Previously Presented)   A method as recited in claim 47, further comprising:

displaying a query button that, when selected, causes the user interface to determine and display a value associated with a selected variable corresponding to a service selected from the list of services, and

displaying a selectable list of variables from which the selected variable is selected.

52.   (Previously Presented)   A method as recited in claim 47, further comprising:

displaying an invoke action button;

displaying a selectable list of actions corresponding to a service selected from the list of services; and

invoking a selected action in response to user input selecting one of the actions and the invoke action button.

53.   (Previously Presented)   A method as recited in claim 52, further comprising displaying, at the user interface, arguments corresponding to the selected action.

54.   (Previously Presented) A method as recited in claim 43, further comprising:

displaying a presentation button; and

in response to user selection of the presentation button, performing the following:

accessing and loading a browser; and

accessing and loading a UPnP device manufacture's presentation user interface with the browser according to a URL of a UPnP device selected from the list of selectable UPnP devices.

55.   (Currently Amended)   A generic user control point tool as recited in claim 27, wherein at least one of the alternate types of searches for discovering UPnP devices is a search by detive type, and wherein in response to user selection of the plurality-of user-selectable device search field corresponding to the search by device type, the device properties search fields further includes a selectable list of device types for discovering UPnP devices on the system.

56.   (New)   A generic user control point tool as recited in claim 27, wherein at least one of the alternate types of searches for discovering UPnP devices is a search by device identification number, and wherein in response to user selection of the user-selectable device search field corresponding to the search by device identification number, the device properties search field includes a selectable list of device identification numbers for discovering UPnP devices on the system.

57.   (New) A generic user control point tool as recited in claim 27, wherein at least one of the alternate types of searches for discovering UPnP devices is an asynchronous search, and wherein in response to user selection of the user-selectable device search field corresponding to the asynchronous search, the device properties search field is disabled.